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PREPARATION OF FIRE-CURED TOBACCO FOR MARKET
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The demand for fire-cured tobacco has declined for several years. This decrease in demand has been due principally to two factors. The first is the change in habits of consumers, both at home and abroad, who are giving up the use of snuff, tobacco chewing, and pipe smoking for cigarettes. This change in consumer habits reduces the demand for fire-cured tobacco for it is not used in domestic cigarettes and is used only to a limited extent in those manufactured in foreign countries. The second factor is found in the fact that foreign production of fire-cured tobacco is replacing that formerly imported from the United States. Such replacement is particularly true in Italy and Great Britain, both of which formerly were important importers of fire-cured tobacco.

Under present conditions, growers of fire-cured tobacco would do well to make every effort to retain present markets and to obtain further outlets for this class of tobacco wherever possible. Apparently this can best be done by producing fire-cured tobacco that is superior in quality to that grown elsewhere. It depends partly on the skill and care exercised in growing and curing but also important is the care used in preparing the tobacco for market.

That portion of fire-cured tobacco which is exported is sent abroad mainly by dealers. They may buy on orders from foreign firms or for their own account for sale overseas. In either case a high degree of uniformity is necessary in fire-cured tobacco shipped to foreign markets. For this reason it is necessary that dealers carefully rehandle, and in many cases re-sort, tobacco before it can be packed for shipment. This is a costly operation as much capital is required for plant and equipment. Besides, labor for this purpose is more costly in urban areas than on farms. It is thought that much of the expense incurred by dealers and domestic manufacturers would be saved, and the saving passed on to producers, if tobacco offered for sale was so prepared that it required a minimum of manipulation before being packed.

It is known, of course, that farmers cannot well prepare tobacco for special orders or for shipment to a particular country but it is thought that by careful preparation for market they can do much to assist the trade and to their own advantage. This is the reason for the following simple instructions regarding stripping and handling fire-cured tobacco.

Equipment for Stripping Tobacco

Comfortable, well-lighted accommodation is essential for proper preparation of tobacco for market. Growers, as a rule, do not appreciate the necessity of proper light and therefore make slight effort to provide adequately for this essential feature when erecting stripping rooms. Color is an important factor in stripping tobacco. If the light is inadequate, color cannot be correctly determined. Tobacco that is prepared under inadequate or improper light may appear to be uniform in color but under proper light it may show a mixture of colors and thereby be reduced in value.

Stripping rooms can be provided with suitable light from either windows or skylights. If windows are used they should be set in the north wall only, and several should be placed close together. Windows should be about 2½ feet above the floor level. When skylights are used they should be placed in the roof at definite intervals and so spaced that light will be evenly distributed over the floor, and not occur in patches. The distance between skylights will be determined by the height of the roof from the floor and the kind of glass used.

Fire-cured tobacco is stripped during the winter. In order that the work may not be delayed by cold weather and for the comfort of workers, provision should be made for heating the stripping room when necessary.

If a stripping room is not available, a rectangular tent can be used. Tents should be made of 10 oz. white duck or canvas. They have many features to recommend them. The light in a tent is of about the same intensity as in a well-lighted tobacco warehouse and the light is uniform. Tents are inexpensive, compared with the cost of buildings, are portable and can be moved from barn to barn as required, and with good care will last for several years. When they become soiled so that the interior is not well lighted, tents can be laundered. Moreover, tents can be made comfortable in cold weather by using oil or wood stoves. If the latter are used, a ring of asbestos must be placed around the stove-pipe at the point where it passes out of the tent flap.

Ordering and Bulking

Fire-cured tobacco is brought into stripping order, or "case," by natural atmospheric conditions. During damp weather tobacco absorbs moisture from the atmosphere and thereby is rendered soft and pliable. Most farmers know when tobacco is in proper order for stripping, that is, when it is sufficiently pliable to prevent breakage but not soft enough to be readily bruised or damaged.

If left hanging in the barn, tobacco will lose moisture and become brittle when the atmosphere is dry. For this reason, tobacco is removed from the tiers and bulked to maintain its order, so that stripping may be continued during fair weather.

Size of bulks will be determined by the amount of time and labor immediately available for this work and by weather conditions. Early in the fall, or when the weather is warm, bulks should be of such size that tobacco will remain in bulk for not longer than 10 days. In the colder weather of December and January, tobacco will remain in safe condition in bulks for as long as the weather is seasonable. In any event, bulks should not be large enough to cause heating.

Some farmers bulk tobacco on the sticks but most farmers remove it from the sticks, which results in a more compact bulk with less danger of the tobacco drying out. Bulked tobacco should not be in contact with the earth as there is danger of the bottom layers being damaged. In every case bulks should be covered to prevent drying and as a protection from dust and dirt.

The way in which stripping and sorting are carried out may determine whether fire-cured tobacco is produced at a profit or a loss. It should be kept in mind that the object is to bring together tobacco of like group, quality, color, and size. If stripping and sorting are done systematically the work will be accelerated and result in greater uniformity of tobacco offered for sale. Lack of system makes the task difficult and may result in improperly sorted tobacco with a loss in income from the crop.

Stripping and Sorting

Sorting the plants.-The first step to uniform sorting should be taken when the tobacco is being bulked. As the plants are removed from the sticks they should be sorted into 3 lots:

- (1) Plants that show a decided green color.
- (2) Plants that are small or have color that does not blend with that of the rest of the crop.
- (3) Plants of normal size and clear color.

Each lot should be bulked, stripped, and marketed separately, provided the crop is large enough to make lots of marketable size of each grade. The bulk containing plants of normal size and color should be worked first and that containing green plants should be stripped last. Tobacco that matured, but that cured with a greenish cast, will often show marked improvement in color after being bulked. This preliminary division will greatly simplify sorting and will assist materially in keeping the several grades uniform.

In stripping fire-cured tobacco, the leaves should be removed in natural sequence from the bottom to the top of the plant. If this practice is followed the natural grouping of leaves on the plants will be maintained.

Groups.-The several groups are known as lugs, thin leaf, heavy leaf, and wrappers. Under normal conditions these appear on the plants as follows: lugs at the bottom of the plant, thin leaf next above the lugs, and heavy leaf from about the middle to the top of the plant. Wrappers are selected from the heavy leaf.

Lugs.-The first leaves stripped from the base of the plants are lugs. These are distinguished by a considerable amount of injury characteristic of leaves grown near the ground. Lug leaves are usually shorter than other leaves on the plant and generally are of thinner body and have less oil and gum than leaves higher on the stalk. As lugs are stripped they should be divided into lots according to quality which is largely based on the amount of injury. If necessary, each quality is then separated according to color. The leaves of each lot are then tied into "hands." The tie-leaves used to bind the hands should be of the same quality and color as the tobacco in the hands. If not, the butts of the hands will contrast with the leaves and the lot will lack uniform appearance, which depreciates its value. This is a minor point but not to be overlooked.

The hands of each quality and color should be assembled and bulked neatly until enough of each grade has been stripped to make a lot of marketable size.

It is a common practice to place in the lugs those leaves from other groups which are badly injured from various causes. This appears to be the best practice with small crops but with large crops a separate lot of badly injured leaf could be made with advantage to the grower.

Thin Leaf.-As the lugs are removed, the plants are passed to the next workman who strips off the thin leaf. Thin leaf differs from lugs in several respects. Tobacco of this group does not have the amount of injury common to lugs. Moreover, the injury is not of the kind characteristic of leaves grown near the ground. Tobacco of this group is usually of thin body and the leaves generally are longer and wider than those at the base of the plant. Thin leaf ordinarily has better finish and clearer color than lugs.

As the thin leaf is stripped it should be separated into qualities as required. If necessary, each quality is then divided on the basis of color. The size of leaf is an important factor in thin leaf, heavy leaf, and wrapper groups. It is not expected that each leaf in a hand and every hand in a lot will be of exactly the same length but the variation should not be such that the tobacco will attract unfavorable attention from buyers. Separate lots should be made, if necessary, to secure uniformity of length in each grade. Securing uniform length is not difficult if plants have been sorted into lots when bulked.

The leaves of each quality, color, and length are then tied into hands. The hands of each grade are then carefully bulked.

Heavy Leaf.-After the thin leaf has been stripped, the remaining leaves of the plant will normally be classed as heavy leaf. The group is distinguished from thin leaf by greater thickness of leaves, heavier weight, and by the leaves usually containing more oil and a higher percentage of wax (gum). Heavy leaf is usually the most valuable group in fire-cured tobacco, except wrappers, and should be sorted with great care. As the leaves are stripped they should be sorted into qualities and colors as required. Each lot is then tied into hands and the hands of each grade are placed in bulks.

Wrappers.-Wrappers are selected from the heavy leaf. Some crops contain no wrappers or not enough to make it worth while to separate into lots. Crops of superior quality may contain enough wrappers to warrant lots being separated from the heavy leaf. Wrappers are made up of those leaves that are smooth, elastic, oily, ripe, firm, strong, and have bright finish, small-to-medium and blending fibers, normal width, and not more than 5 percent of injury. Wrappers are therefore almost perfect leaves. The principal difference between the best-quality heavy leaf and wrappers is elasticity. Wrappers must be elastic. As wrappers are stripped they should be carefully sorted into qualities as required. Each quality is then separated on the basis of color, if necessary. Wrappers should be carefully "lengthed" to secure uniformity. Each lot is then tied into hands. The tied tobacco is then carefully bulked.

Size of Hands.-The size of hands varies for the different types of fire-cured tobacco, and to some extent according to quality in a particular type. In the fire-cured area of Virginia and the eastern fire-cured areas of Tennessee and Kentucky, hands are usually small. Tobacco of the western area of Kentucky is tied into hands of larger size and those of the stemming district of Kentucky are usually very large. In each area hands of low quality are usually larger than those of choice quality. Wrappers are generally tied into small hands.

In each area farmers should be guided by the prevailing practice and should tie hands of such size so that they will conform in this respect to normal trade requirements.

Handling Stripped Tobacco

The methods employed for handling tobacco between the time it is stripped and marketed vary in different areas. Some practices should be avoided.

Tobacco should not be hung in the tiers after it has been tied. Tobacco will be subjected to climatic changes when hung in tiers and this sometimes results in deterioration of color which reduces its value. Some farmers place stripped tobacco in windrows on the barn floor. Unless carefully done and proper protection is provided, tobacco will be subjected to climatic changes that may be detrimental, and there is also the danger of the tobacco becoming dusty or taking on an earthy odor which is objectionable.

The practice of bulking tobacco as it is stripped and tied is followed by successful growers and can be recommended.

This practice in handling fire-cured tobacco requires that it be placed in 2-layer bulks as the tobacco is stripped and tied into hands. The tobacco is bulked two hands at a time, using care to straighten the leaves during the operation. A bulk of proper size is started for each grade and is added to from time to time as stripping continues. The tobacco when bulked should contain the correct amount of moisture to prevent breakage and to insure proper keeping order. After tobacco has been bulked, it should be weighted to press it down sufficiently to make the bulk compact and to straighten the hands.

Tobacco bulked in this way will retain a uniform amount of moisture and when delivered to the market will be attractive to buyers. This care in handling is usually reflected in better prices than are paid for improperly handled lots of tobacco.

Bulks should not be in contact with the earth and should be carefully covered to protect the tobacco from dust and dirt and to prevent it from either drying or absorbing excessive moisture.

Loading Stripped Tobacco

When enough tobacco has been stripped to make a load, the next operation is to transfer the tobacco from the bulk to a wagon or truck for transport to market. Each lot should be reexamined to secure uniformity. This work must be done when there is plenty of light and should never be done early in the morning, late in the afternoon, or by artificial light, such as lantern light.

For protection of the tobacco and for convenience in unloading, it should be packed in definite order as follows: place on the wagon first the lowest quality lugs and then in order of quality until the best quality lugs are packed. Next place the lowest quality thin leaf and then in order of quality until all thin leaf is loaded. If there are wrappers they should be loaded next in order of quality. Then start with the best quality of heavy leaf and continue in order of quality so that the lowest quality leaf is packed last.

Care must be taken in loading so that no leaves are crumpled or otherwise injured. In loading, pieces of newspaper or other markers should be placed between each lot so that they can readily be kept separate when unloading at the sales floor. Tobacco that is properly prepared for market may be badly mixed in unloading for sale unless markers are placed between each lot.

Unloading Stripped Tobacco and Placing for Sale

As the tobacco is unloaded at the sales warehouse it is packed on flat baskets. The baskets should be so packed that the tobacco will present a neat appearance. Each basket should contain only one grade of tobacco. In placing the baskets on the floor they should be arranged so that the tobacco will be sold in the following order:

- (1) Lowest quality lugs first and then in order of quality to the best lugs.
- (2) Thin leaf in order of quality from lowest to highest.
- (3) Heavy leaf in order of quality from the lowest to highest.
- (4) Wrappers in order of quality from good to choice.

Tobacco displayed in this order is more attractive and usually sells to better advantage than crops laid out for sale without regard to groups or qualities.

It should be constantly kept in mind that properly sorted, neatly prepared, and attractively displayed tobacco usually sells at the best prices.

Does Proper Sorting and Handling Pay?

Farmers sometimes express doubt that careful sorting and handling of fire-cured tobacco is profitable. Other farmers who know, and admit, that properly sorted, uniform lots of tobacco sell at best prices fail to deliver their tobacco in this state. Their tobacco is uniform in the hands but each lot contains a mixture of hands which makes necessary the classification of the tobacco into green or mixed grades, depending on the mixture. This matter can be easily corrected by carefully classifying the hands of each lot according to group, quality, color, and length.

Farmers, who reject bids on lots of tobacco made up of mixed hands, are usually advised by inspectors to classify their tobacco into uniform lots before again offering it for sale. When the advice of inspectors is followed and the work is done properly, the results usually convince the grower of the value of proper preparation of tobacco for sale.

A few cases will illustrate the importance of offering uniform lots of tobacco for sale.

A farmer offered a lot of 620 pounds. This was graded B3G46 by the inspector and a bid made for it at \$18.25 per 100 pounds, which amounted to \$113.15. The farmer was dissatisfied with both the grade and the price. The inspector pointed out that the lot contained brown and dark Wrappers as well as green Leaf but since the amount of green Leaf was more than 20 percent it could only be graded as B3G46. The farmer sorted the lot into three lots which were then offered for sale with the following results:

<u>Grade</u>	<u>Pounds</u>	<u>Sale Price</u>	<u>Amount</u>
B3G46	260	\$22.50	\$58.50
A2F46	264	25.50	67.32
A3D46	96	30.00	28.80
Total	620		\$154.62

The resale gave the farmer an increase of \$41.47 above the original bids. This is equal to \$6.68 per hundred pounds and represents an increase of 36.5 percent above the amount of the original bids of mixed green Leaf with brown and dark Wrappers.

Another farmer offered three lots of tobacco which were graded and bids offered as follows:

<u>Grade</u>	<u>Pounds</u>	<u>Sale Price</u>	<u>Amount</u>
B4M45	396	\$12.25	\$48.51
B4M45	356	10.50	37.38
B4M45	316	13.00	41.08
Total	<u>1,068</u>		<u>\$126.97</u>

This tobacco was re-sorted and resold as follows:

<u>Grade</u>	<u>Pounds</u>	<u>Sale Price</u>	<u>Amount</u>
B3D45	286	\$18.25	\$52.19
B3G45	256	15.50	39.68
C4F45	306	12.75	39.01
C4F46	196	11.00	21.56
X3G	30	3.50	1.05
Total	<u>1,074</u>		<u>\$153.49</u>

The resale amount of \$153.49 was \$26.52 above the amount of the original bids for the mixed tobacco. This was an increase of \$2.47 per hundred pounds. The amount of \$26.52 was an increase of 20.8 percent above the amount resulting from the original bids.

In another instance a farmer delivered 4 lots of tobacco which were graded and sold as follows:

<u>Grade</u>	<u>Pounds</u>	<u>Sale Price</u>	<u>Amount</u>
B4M45	435	\$ 8.50	\$38.97
B4M44	255	8.50	21.68
B4M44	350	8.00	28.00
C4M44	310	5.25	16.27
Total	<u>1,350</u>		<u>\$104.92</u>

Although for the four lots the bids were consistent with the averages for the grades, the farmer was dissatisfied and rejected them. He was advised by the inspector to re-sort the hands in each lot so that the tobacco would be uniform when re-offered for sale. This was done properly and the tobacco was graded and sold as follows:

<u>Grade</u>	<u>Pounds</u>	<u>Sale Price</u>	<u>Amount</u>
B4F45	360	\$ 9.50	\$34.20
B4D45	345	16.00	55.20
B4D44	455	14.50	65.98
B4D44	160	12.50	20.00
C4M44	35	6.50	2.27
Total	<u>1,355</u>		<u>\$177.65</u>

The difference between the amounts resulting from the first bids and the final sale was \$72.73. This is equal to \$5.38 per hundred pounds and represents an increase of 69.3 percent above the amount realized from the original bids on the mixed tobacco.

Inspectors have noted many such instances but the above should be sufficient to illustrate that careful sorting and proper handling pay farmers for the additional time required for this important operation connected with tobacco production.

The tobacco inspection service operates on all fire-cured auction markets. Inspection is made before sale and the grade entered on each warehouse ticket is a certificate that each lot of tobacco is of the group, quality, and color stated. This service gives growers unbiased information as to the quality of each lot of tobacco and the Tobacco Price Reports, issued by the Agricultural Marketing Service, show the average selling price of each grade at the time the report is issued. The two services provide information that enables every fire-cured tobacco grower to know when bids are made whether his tobacco is selling in line with market prices.

